REMARKS

Claims 1-24 are pending in the present application. Claims 1, 11, 12 and 20 are amended and claims 5, 8-10 and 24 are canceled by the present Amendment. The present Amendment also adds new claims 25 and 26.

I. THE CLAIMS ARE NOT INDEFINITE

A. Rejection of Claims 1-19 under 35 U.S.C. 112, First Paragraph

In section 4 of the Office Action, claims 1-19 were rejected under 35 U.S.C. 112, first paragraph as assertedly containing subject matter that was not adequately described in the specification. Specifically, it was asserted that the specification does not support the use in claim 1 of the phrase "adapted for exposure to an engine compartment thermal environment" in describing a feature of the first covering layer and the phrase "adapted for planar contact with the surface" in describing a feature of the second covering layer.

The intent of the Applicant in adding the "adapted for" phrases of claim 1 was to establish an ordering of the layers of the heat-insulating and soundproofing lining of claim 1. Claim 1 has now been amended to recite language that uses "positioned for" rather than "adapted for." Specifically, claim 1 now recites that the first covering layer is "positioned for exposure to an engine compartment thermal environment when the lining is attached to the surface." Specific support for the positioning of the first covering layer appears at page 3, lines 21-23 and 29. " Similarly, claim 1 now recites that the second covering layer is "positioned for planar contact with the surface when the lining is attached to the surface."

The Applicant respectfully submits that claim 1 as amended meets the requirements of 35 U.S.C. 112, first paragraph. The Applicant therefore requests that the rejection of claims 1-19 under 35 U.S.C. 112, first paragraph be withdrawn.

B. Rejection of Claim 1 under 35 U.S.C. 112, Second Paragraph

In section 6 of the Office Action, claim 1 was rejected under 35 U.S.C. 112, second paragraph as being assertedly indefinite based on the use of the phrase "adapted for exposure to an engine compartment thermal environment" in describing a feature of the first covering layer.

Claim 1 has been amended to replace "adapted for" with "positioned for" in order to clearly establish the ordering of the layers relative to the thermal and sound environments of the engine compartment when the heat-insulating and soundproofing lining is installed.

The Applicant respectfully submits that claim 1 as amended is not indefinite. The Applicant therefore requests that the rejection of claim 1 under 35 U.S.C. 112, second paragraph be withdrawn.

II. THE CLAIMS ARE PATENTABLE OVER THE CITED ART

A. Rejection of Claims 1, 13, 17-22 and 24 under 35 U.S.C. 102(e) or 25. U.S.C. 103(a)

In section 9 of the Office Action, claims 1, 13, 17-22 and 24 were rejected under 35 U.S.C. 102(e) as being assertedly anticipated by Alts, U.S. Patent 6,145,617 ("Alts Patent") or, in the alternative as obvious in view of the Alts Patent. Claim 24 has been canceled, thereby rendering its rejection moot. The Applicant respectfully traverses the rejection of claims 1, 13 and 17-22.

1. Claim 1

As amended, claim 1 of the Application recites a heat-insulating and soundproofing lining for attachment to a surface in an engine compartment of a motor vehicle. The heat-insulating and soundproofing lining comprises a first covering layer positioned for exposure to an engine

compartment thermal environment when the lining is attached to the surface. The first covering layer comprises at least one of a polyester web, a glass fiber web, a carbon fiber web, a ceramic fiber web, and a mineral fiber web. The lining further comprises a duroplastic foam layer in planar contact with the first covering layer, wherein the duroplastic foam layer comprises a flexible, open-cell foam of melamine resin and has a long-term thermal loadability at 200°C of three weeks. A soundproofing layer in planar contact with the duroplastic foam layer is selected from the group consisting of plastic foam having a volumetric weight in a range from about 6 kg/m^3 to about 30 kg/m^3, particle composite foam, and a non woven fabric wherein the non woven fabric consists of at least one of natural fibers and synthetic fibers. Finally, the lining comprises a second covering layer in planar contact with the soundproofing layer. The second covering layer is positioned for planar contact with the surface when the lining is attached to the surface and has a weight per unit area in a range from 30 g/m^2 to 200 g/m^2.

Applicant's claim does not preclude an air gap?

2. The Alts Patent Does Not Disclose the Features of Claim 1

(a) The Alts Patent soundproofing kits require an air gap

The Alts Patent was discussed in detail in the Amendment filed December 27, 2002. The Alts patent discloses a series of soundproofing kit embodiments, each having a plurality of layers tailored and ordered based on their specific application. Significantly, all the soundproofing kits of the Alts Patent are required to have an air layer somewhere between the soundproofing layers and the substrate to which the soundproofing lining is attached. Alts Patent, col. 4, lines 6-8. Each of the embodiments shown in Figures 4, 5 and 8-11 of the Alts Patent includes an air gap either between layers of the insulating kit or between the lowest layer and the substrate.

In contrast, claim 1 of the present Application recites a multi-layer lining that is laid up so that there is no air gap when the lining is installed. Each layer of the lining is in planar contact with adjacent layers so that there can be no gap between the layers.

On page 6 of the Office Action, it was asserted that "the open claim language of 'comprising' recited in claim 1 does not preclude an air layer." The Applicant respectfully submits that, notwithstanding the use of "comprising" in claim 1, the recitation of each layer being in planar contact with the layer above it precludes the presence of an air gap between the layers. As a result, a feature that is said to be "essential" to the Alts soundproofing kit is precluded by the language of claim 1.

Because the insulating and soundproofing lining of claim 1 does not include an element essential to the disclosed embodiments of the Alts Patents, these embodiments cannot be said to teach or disclose the claimed invention. Indeed, the fact that this element is said to be essential actually teaches away from the layer configuration of claim 1.

(b) The Alts Patent does not teach, disclose or suggest a duroplastic foam layer comprising a melamine resin foam

The Applicant respectfully submits that the Alts Patent does not teach, disclose or suggest the use of a melamine resin foam material having a long-term thermal loadability at 200°C of three weeks as recited in claim 1. At most, the Alts Patent discloses a series of soundproofing kit embodiments that include a porous spring layer that is preferably formed from an open-pored foam layer. Alts Patent, col. 3, lines 63-66. The porous spring layer may be a thermomoulded foam, a PU moulded foam, or a duroplastic mixed fibre fleece. Alts patent, col. 6, lines 17-21. There is no mention of duroplastic foams, generally, or of foams formed from melamine resin. The Applicant

Obvious to use melamine

respectfully submits that this alone indicates that the rejection of claim 1 under 35 U.S.C. 102(e) should be withdrawn.

With regard to the rejection of claim 1 under 35 U.S.C. 103(a), the final paragraph of page 9 of the Office Action dated April 25, 2002 ("First Office Action") addressed the melamine resin feature of claim 9, which has now been added to claim 1. It was asserted in that paragraph that the duroplastic foam layer of claim 1 "is analogous to the microporous stiffening layer of the Alts reference . . . ." It was also asserted that "the claimed melamine foam would be obvious to one of ordinary skill in the art because melamine resins are known to have good heat and sound insulation properties."

The Applicant submits that the duroplastic foam layer is clearly distinguishable from the Alts microporous stiffening layer, which is an open-pored fibre layer or fibre/foam composite layer. Alts Patent, col. 3, line 66 to col. 4, line 1. The microporous stiffening layer uses "stiff fibres" to achieve a specified stiffness for purposes of sound absorption. Alts Patent, col. 4, lines 31 and 42-47. Also, based on an areal mass of 0.3 to 2.0 kg/m2 (col. 4, line 4) and a thickness of 1.5 to 5.0 mm (col. 4, line 31), the density of the stiffening layer is in a range from 60 to 1333 kg/m^3. In contrast, claim 1 recites that the duroplastic foam layer comprises "a flexible, open cell foam having a volumetric density range from about 6 kg/m^3 to about 30 kg/m^3." The flexibility and of the duroplastic foam layer and the recited density range clearly distinguish the microporous stiffening layer of the Alts Patent.

The Applicant further submits that it would not have been obvious to one of skill in the art to use a melamine foam in the Alts soundproofing kit. The melamine resin foam has thermal properties that allow it to provide thermal protection to the soundproofing layer. There is no discussion or

suggestion in the Alts Patent that the porous spring layer (foam layer) be used or designed for thermal protection. Indeed, there is no discussion of thermal environments anywhere in the Alts Patent. As evidence that thermal protection of the soundproofing layer by the foam layer was not considered by Alts, the Applicant points out that in the kit embodiment of Figure 10, which is intended for use in an engine compartment, the foam layer is beneath the microporous stiffening layer. Clearly, thermal protection of the stiffening layer is not a factor in the selection of the foam material. The problem solved by the selection of a material with advantageous thermal properties was thus not identified in the Alts Patent.

For at least these reasons, the Applicant submits that the Alts Patent does not teach, disclose or suggest the use of a duroplastic foam layer comprising a flexible, open-cell foam of melamine resin and has a long-term thermal loadability at 200°C of three weeks. The Applicant also submits that it would not have been obvious to one of skill in the art to use such a foam layer in the Alts soundproofing kits.

(c) The Alts Patent does not teach, disclose or suggest the layer configuration of claim 1

The Applicant submits that the ordering of the layers in claim 1 is a positively recited, non-obvious feature that is not disclosed or suggested in the Alts Patent. The Alts Patent discloses one prior art embodiment and six embodiments of the Alts soundproofing kit. As discussed in the following paragraphs, each of these has a particular layer configuration that can be distinguished from the layer configuration of the lining of claim 1.

The prior art embodiment of Figure 1 is readily distinguished by the outer carpet layer (area density of 600 g/m^2) and air impermeable "heavy layer."

The kit embodiments of Figures 4, 5, 8 and 9 all have as their outer layer a microporous stiffening layer (area density of 300-2000 g/m^2) or, optionally, a soft decorative layer (area density of 210 g/m^2). The soundproofing of these embodiments is provided by the microporous stiffening layer in combination with an underlying porous spring layer (foam layer). Alts Patent, col. 3, line 60 to col. 4, line 12. In the embodiments of Figures 4 and 5, the microporous stiffening layer consists of an open-pored fibre layer or fibre/foam composite layer. Alts Patent, col. 3, line 66 to col. 4, line 5. In the embodiment of Figure 8, the microporous stiffening layer is formed from pressed fibre material. Alts Patent, col. 5, lines 10-13 and col. 6, lines 12-16. None of these kits has an outer cover formed from the materials cited in claim 1 or having an area density in the claimed range. Further, none of these embodiments discloses or suggest a protective duroplastic foam layer over a soundproofing layer consisting of plastic foam, particle composite foam or a non-woven fabric. Still further none of these kits have a protective cover on the substrate side of the kit.

The soundproofing of the kit embodiment of Figure 10 has a microporous stiffening layer formed from pressed fibre material in combination with an underlying porous spring layer (foam layer). This kit, however, further includes an oil and water resistant protective fleece on its outer face. There is no suggestion of the materials recited in claim 1 and no suggestion that the protective fleece be selected to have similar properties to these materials. Moreover, the kit embodiment of Figure 10 does not disclose or suggest a protective duroplastic foam layer over a soundproofing layer consisting of plastic foam, particle composite foam or a non-woven fabric.

The final Alts kit embodiment is shown in Figure 11. The kit of Figure 11 reverses the soundproofing layers; that is, the microporous stiffening layer is beneath the porous spring layer. This reversal, however, apparently results in the need for a carrier layer to impart sufficient stability

for the kit to be applied. Alts Patent, col. 6, lines 37, 38. In addition to the carrier layer the kit of claim 1 includes a protective fleece outer layer. There is again no suggestion of using the materials recited in claim 1 for the outer layer and no suggestion that the protective fleece be selected to have similar properties to these materials.

The Alts Patent does not teach, disclose or suggest the configuration and ordering of the layers recited in claim 1. Further, it would not have been obvious to one skilled in the art to produce the lining configuration of claim 1 for use in an engine compartment of a vehicle. Even if it is assumed (for argument purposes only) that the individual features of claim 1 are present in the various embodiments of the Alts Patent, it is only through the use of impermissible hindsight that the configuration of claim 1 can be constructed from these features. This is particularly true because there is no discussion in the Alts Patent regarding the thermal environment of an engine compartment or the thermal characteristics of the disclosed soundproofing kits.

The Applicant thus submits that the Alts Patent does not disclose or suggest the layer configuration of claim 1. The Applicant further submits that it would be impermissible hindsight to use the configuration of claim 1 as a blueprint for constructing an insulating and soundproofing lining using layers and materials from disparate embodiments of the Alts Patent.

(d) Summary

The Alts Patent does not teach, disclose or suggest the features of the insulating and soundproofing lining of claim 1. There is no teaching or suggestion of the use of a flexible duroplastic foam comprising a melamine resin and there is no teaching or suggestion of the recited layer configuration. The Alts Patent, in fact, teaches away from the recited configuration by stating that an air layer is an essential element of the disclosed soundproofing kits.

For at least these reasons, the Applicant respectfully submits that the rejection of claim 1 under 35 U.S.C. 102(e) or, in the alternative, 35 U.S.C. 103(a) should be withdrawn.

3. Claims 13 and 17-19

Claims 13 and 17-19 are dependent on claim 1, which has been shown to be patentable over the Alts Patent. Because claims 13 and 17-19 include all of the features of claim 1, the Applicant submits that claims 13 and 17-19 are also patentable over the Alts Patent.

With respect to claim 17, the Applicant also submits that there is no disclosure or suggestion in the Alts Patent of a soundproofing kit having a metal foil in planar contact with an outer covering layer. The embodiment of Figure 9 of the Alts Patent includes a thin PU-foil 27 for protection against damp and contamination. Alts Patent, col. 5, lines 52-54. As shown in Figure 9, this foil is disposed between the underside of the kit assembly package 42 and the substrate. This foil is not exposed to an engine compartment thermal environment and there is no suggestion that it could be so-used. Clearly it is not analogous to the protective metal foil of claim 17.

For at least the above reasons, the Applicant submits that the rejection of claims 13 and 17-19 under 35 U.S.C. 102(e) or, in the alternative, 35 U.S.C. 103(a) should be withdrawn.

4. The Alts Patent Does Not Disclose the Features of Claim 20

Claim 20 of the Application recites a method for manufacturing a heat-insulating and soundproofing lining for attachment to a surface in an engine compartment of a motor vehicle. The method comprises providing a first covering layer comprising at least one of a polyester web, a glass fiber web, a carbon fiber web, a ceramic fiber web, and a mineral fiber web; providing a duroplastic foam layer in planar contact with the first covering layer, wherein the duroplastic foam layer comprises a flexible, open-cell foam of melamine resin and has a long-term thermal loadability at

200°C of three weeks; providing a soundproofing layer in planar contact with the first covering layer, the soundproofing layer being formed from one of the group consisting of plastic foam having a volumetric weight in a range from about 6 kg/m^3 to about 30 kg/m^3, particle composite foam, and a non woven fabric consisting of at least one of natural fibers and synthetic fibers; providing a second covering layer in planar contact with the soundproofing layer, the second covering layer having a weight per unit area in a range from 30 g/m^2 to 200 g/m^2 and being positioned for planar contact with the surface in the engine compartment; and pressing the layers together at an increased temperature and an increased pressure.

The Applicant respectfully submits that the Alts Patent does not disclose the features of claim 20. As discussed in detail above, the Alts Patent does not teach, disclose or suggest the manufacture of a soundproofing lining using a flexible duroplastic foam comprising a melamine resin. Moreover, the Alts Patent does not disclose a method of manufacturing an insulating and soundproofing lining by providing a first covering layer and duroplastic foam layer along with a soundproofing layer in planar contact with the duroplastic foam layer and a second covering layer in planar contact with the soundproofing layer, and. pressing the layers together at an increased temperature.

For at least the reasons presented above with respect to claim 1, the Applicant submits that claim 20 is patentable over the Alts Patent. The Applicant therefore respectfully requests that the rejection of claim 20 under 35 U.S.C. 102(e) or, in the alternative, under 35 U.S.C. 103(a) be withdrawn.

5. Claims 21 and 22

Claims 21 and 22 are dependent on claim 20, which has been shown to be patentable over the Alts Patent. Because claims 21 and 22 include all of the features of claim 20, the Applicant submits

that claims 21 and 22 are also patentable over the Alts Patent. The Applicant therefore requests that the rejection of claims 21 and 22 under 35 U.S.C. 102(e) or, in the alternative, under 35 U.S.C. 103(a) be withdrawn.

B. Rejection of Claims 2-12, 14-16 and 23 under 35 U.S.C. 103(a)

In section 6 of the Office Action, claims 2-12, 14-16 and 23 were rejected under 35 U.S.C. 102(e) as being assertedly obvious in view of the Alts Patent. Claims 5 and 8-10 have been canceled, thereby rendering their rejection moot. The Applicant respectfully traverses the rejection of claims 2-4, 6, 7, 11, 12, 14-16 and 23.

Claims 2-4, 6, 7, 11, 12 and 14-16 are dependent on claim 1, and claim 23 is dependent on claim 20. Both claims 1 and 20 have been shown to be patentable over the Alts Patent. The Applicant submits that, by virtue of their dependency, claims 2-4, 6, 7, 11, 12, 14-16 and 23 are also patentable over the Alts Patent. For at least this reason, the Applicant submits that the rejection of claims 2-4, 6, 7, 11, 12, 14-16 and 23 under 35 U.S.C. 103(a) should be withdrawn.

III. NEW CLAIMS

Claims 25 and 26 are added by the present amendment. The Applicant believes that no new matter is added by the addition of these claims. Support for claims 25 and 26 appears in the specification at page 5, lines 23-32.

New claims 25 and 26 are presented in response to the Examiner's invitation with regard to thermal parameters in section 13 of the Office Action.

IV. CONCLUSION

For at least the reasons stated above, the Applicant submits that the present amendment places claims 1-24 in condition for allowance. The Applicant submits that new claims 25 and 26 are also in condition for allowance. The Applicant therefore requests that the present amendment be entered and the Application be allowed and passed to issue.

Should the Examiner believe anything further is desirable in order to place the Application in even better condition for allowance, the Examiner is invited to contact the Applicant's undersigned representative.

Respectfully submitted,

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